CALIFORNIA COASTAL COMMISSION
45 FREMONT, SUITE 2000
SAN FRANCISCO, CA 94105-2219
VOICE AND TDD (415) 904-5200
FAX (415) 904-5400

Th10a & Th10b

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Staff:	TRL-SF
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Hearing Date:	August 7, 2003

CONSOLIDATED STAFF REPORT
DE NOVO HEARING FOR APPEAL
AND
COASTAL DEVELOPMENT PERMIT APPLICATION

COMMISSION APPEAL NO.:	**A-5-LOB-03-239**
APPLICATION FILE NO.:	**E-03-007**
LOCAL GOVERNMENT:	City of Long Beach
LOCAL DECISION:	Approved May 1, 2003
APPLICANT:	City of Long Beach Water Department
PROJECT LOCATION:	6801 Second Street, at the Haynes Generating Station, Long Beach, Los Angeles County
PROJECT DESCRIPTION:	Construction and operation of a pilot desalination facility.
APPELLANT OF LOCAL PERMIT:	Commissioners Sara Wan and Toni Iseman
SUBSTANTIVE FILE DOCUMENTS:	See Appendix A
STAFF RECOMMENDATION:	Approval of De Novo Permit with Conditions; Approval of Regular Permit with Conditions

SUMMARY

This staff report evaluates a permit application and an appeal of a local government permit approval for a proposed desalination test facility to be constructed and operated by the City of Long Beach Water Department. The project purpose is to test desalination equipment and techniques for potential long-term use in providing a water supply for the City of Long Beach. The test facility will operate for approximately 18 months.

The proposed project is located within the jurisdiction of both the City of Long Beach (the City) and the Commission, and requires a coastal development permit (CDP) from each. On May 1, 2003, the City issued a CDP for the project, which was appealed to the Commission. On July 11, 2003, the Commission found that the appeal raised substantial issue with regards to the CDP's conformity to the Local Coastal Program. Concurrent with these events, the applicant made several changes to the proposal as it had been approved by the City and on July 10, 2003, submitted an application for the portions of the project requiring a CDP from the Commission. The changes include reducing water and chemical use, deleting portions of the project that would have required excavation, and committing to operate the facility only during power plant operations. These changes would reduce the project's adverse effects on coastal resources.

To ensure these adverse effects are minimized, staff recommend several conditions. **Special Condition 1** would minimize entrainment by allowing the desalination facility to operate only when Units 1 and 2 at the power plant are using their cooling system water. **Special Condition 2** would require the applicant to notify the Executive Director if there is a change in the power plant's existing NPDES permit or any other requirement by the Regional Water Quality Control Board that may affect construction or operation of the desalination facility and may require an amendment to the coastal development permit.

Staff recommends that the Commission find the project as conditioned consistent with the relevant policies of the City's LCP and the Coastal Act and approve the coastal development permits for both the portion of the project within the City's permit jurisdiction and the Commission's jurisdiction, subject to the conditions below. Staff has determined that the proposal, as conditioned, will comply with Sections 30230 and 30231 (marine biology and water quality), Section 30232 (spill prevention and response), Section 30211 (public access), and Section 30251 (visual resources).

1.0 STAFF RECOMMENDATIONS

1.1 Motion and Resolution for Coastal Development Permit No. A-5-LOB-03-239

The staff recommends the Commission approve Coastal Development Permit No. A-5-LOB-03-239 subject to the conditions in Sections 2 and 3 below.

Motion

I move that the Commission approve Coastal Development Permit No. A-5-LOB-03-239 subject to conditions set forth in the staff recommendation.

Staff recommends a YES vote. Passage of this motion will result in approval of the permit as conditioned and adoption of the following resolution and findings. The motion passes only by an affirmative vote by the majority of the Commissioners present.

Resolution

The Commission hereby approves the coastal development permit for the proposed development and adopts the findings set forth below on the grounds that the development as conditioned will be in conformity to the policies of the certified LCP and the public access and recreation policies of Chapter 3 of the Coastal Act. Approval of the permit complies with the California Environmental Quality Act because either 1) feasible mitigation measures and/or alternatives have been incorporated to substantially lessen any significant adverse effects of the development on the environment, or 2) there are no further feasible mitigation measures or alternatives that would substantially lessen any significant adverse impacts of the development on the environment.

1.2 Motion and Resolution for Coastal Development Permit E-03-007

The staff recommends that the Commission approve Coastal Development Permit No. E-03-007 subject to the conditions in Sections 2 and 3 below.

Motion

I move that the Commission approve Coastal Development Permit E-03-007 subject to conditions set forth in the staff recommendation.

Staff recommends a YES vote. Passage of this motion will result in approval of the permit as conditioned and adoption of the following resolution and findings. The motion passes only by affirmative vote of a majority of Commissioners present.

Resolution

The Commission hereby approves the coastal development permit for the proposed development and adopts the findings set forth below on grounds that the development as conditioned will be in conformity with the policies of Chapter 3 of the Coastal Act. Approval of the permit complies with the California Environmental Quality Act because either 1) feasible mitigation measures and/or alternatives have been incorporated to substantially lessen any significant adverse effects of the development on the environment, or 2) there are no further feasible mitigation measures or alternatives that would substantially lessen any significant adverse impacts of the development on the environment.

2.0 STANDARD CONDITIONS

1. **Notice of Receipt and Acknowledgment**. The permit is not valid and development shall not commence until a copy of the permit, signed by the permittee or authorized agent, acknowledging receipt of the permit and acceptance of the terms and conditions, is returned to the Commission office.

2. **Expiration**. If development has not commenced, the permit will expire two years from the date on which the Commission voted on the application. Development shall be pursued in a diligent manner and completed in a reasonable period of time. Application for extension of the permit must be made prior to the expiration date.

3. **Interpretation**. Any questions of intent of interpretation of any condition will be resolved by the executive director or the Commission.

4. **Assignment**. The permit may be assigned to any qualified person, provided assignee files with the Commission an affidavit accepting all terms and conditions of the permit.

5. **Terms and Conditions Run with the Land**. These terms and conditions shall be perpetual, and it is the intention of the Commission and the permittee to bind all future owners and possessors of the subject property to the terms and conditions.

3.0 SPECIAL CONDITIONS

1. **Operation of Desalination Facility with Power Plant Cooling System.** The desalination facility shall withdraw seawater from the intake channel or forebay only when Haynes Generating Units 1 and 2 are using their cooling water system.

2. **Change to project construction or operation.** The permittee shall notify the Executive Director of any modification to the existing NPDES permit for the Haynes Generating Station or any requirement by the Regional Water Quality Control Board that may affect construction or operation of the desalination facility. Such construction or operational changes shall not be incorporated into the project until the applicant obtains a Commission amendment to this coastal development permit, unless the Executive Director determines that no amendment is legally required.

4.0 PROJECT DESCRIPTION, SETTING, AND BACKGROUND

This proposed development involves the construction and operation of a desalination test facility to be constructed and operated by the City of Long Beach Water Department. The project purpose is to test various types of desalination equipment and techniques to determine their effectiveness, cost, and efficiency in desalting seawater. The facility would be located at the Haynes Generating Station, which is owned and operated by the Los Angeles Department of Water and Power (LADWP), in Long Beach (see Exhibits 1 and 2). The power plant withdraws up to approximately 1 billion gallons per day of seawater from Alamitos Bay to cool the power plant generating units, and the desalination facility would use up to 850,000 gallons per day of this water. The project is expected to operate for approximately 18 months and will then be decommissioned.

The facility would be built in the southern portion of the power plant site. It would include intake and discharge pipes, various tanks, filters, membranes, and associated equipment used for desalting the water, and office and storage trailers. The facility would withdraw seawater from the forebay of two of the power plant's generating units. These two generating units draw in up to approximately 138 million gallons of the 1 billion gallons used by the full power plant. The desalination process would separate the withdrawn seawater into two streams – desalted water and brine – and after the desalination process was completed and tested, the two streams would be recombined and discharged back into the same forebay. The water would then be drawn into the power plant cooling system and discharged to the San Gabriel River. Approximately 3,000 gallons per day of the treated water could not be discharged to the cooling system due to higher concentrations of treatment chemicals. This water would be routed to a storage tank onsite and then shipped by truck to the municipal sewage treatment facility. None of the desalinated water produced would be used as a public drinking supply.

The cooling water intake and discharges from the power plant are subject to conditions of a five-year NPDES permit issued by the Los Angeles Regional Water Quality Control Board in July 2000. The desalination facility discharges will be subject to those conditions, or may be subject to modified conditions of that permit or conditions of a separate permit, to be determined by the Regional Board.

5.0 PERMIT JURISDICTION AND APPEAL PROCESS

The proposed project is located within the jurisdiction of both the City of Long Beach (the City) and the Commission, and requires a coastal development permit (CDP) from each. The landward elements of the project, which include the desalination processing equipment, tanks, filters, and office trailers, are within the City's jurisdiction. Elements of the project that are subject to the Commission's retained jurisdiction include the withdrawal and discharge of seawater and various chemicals into tidal waters and placement of an intake and discharge line from the facility into tidal waters.

5.1 Standard of Review

For the de novo review of the appealed permit application for the portion of the project located within the City's permit jurisdiction, the standard of review consists of the policies of the City's certified LCP and the public access and public recreation policies of the Coastal Act. For the portion of the project located in the Commission's retained jurisdiction, the standard of review consists of the policies of Chapter 3 of the Coastal Act. The Commission may also refer to the provisions of the certified LCP for guidance.

There are separate motions for the portion of the project in the Commission's appeal jurisdiction and the Commission's retained permit jurisdiction. The Commission must vote separately on each item. Because the de novo review and the original Commission jurisdiction permit have two different standards of review, the findings in Section 6 below incorporate both standards of review. Because the City's Local Coastal Program incorporates policies of the Coastal Act verbatim, each LCP policy corresponds to a Coastal Act policy and is so referenced in the findings. Although the project spans two jurisdictions and must be reviewed under two separate coastal development permit applications, the development functions as a single, inseparable project and it is recommended the Commission act on both decisions at one time.

5.2 Local Government Action

On May 1, 2003, the City approved Coastal Development Permit and Conditional Use Permit No. 0303-05. The approval included findings that the project conformed to applicable policies of the LCP, and included a number of conditions of approval (see Attachment 1).

5.3 Filing of Appeal with the Coastal Commission

On May 21, 2003, the Coastal Commission received the City's Notice of Final Action and associated records to start the 10 working-day appeal period, which ended June 3, 2003. Commissioners Wan and Iseman filed timely appeals on June 3, 2003. The appeal was assigned file number A-5-LOB-03-239. The appellants contended that approval of the project by the City was inconsistent with provisions of the City's certified LCP pertaining to protection of marine biological resources, protection of water quality, and prevention of contamination. The Commission, at its hearing on July 11, 2003, found that the appeals raised substantial issue.

6.0 FINDINGS AND DECLARATIONS FOR APPEAL NO. A-5-LOB-03-239 AND COASTAL DEVELOPMENT PERMIT NO. E-03-007

6.1 Water Quality and Marine Biological Resources

Coastal Act Section 30230 states:

> *The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored through, among other means, minimizing adverse effects of waste water discharges and entrainment, controlling runoff, preventing depletion of ground water supplies and substantial interference with surface water flow, encouraging waste water reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural streams.*

Coastal Act Section 30231 states:

> *Marine resources shall be maintained, enhanced, and where feasible, restored. Special protection shall be given to areas and species of special biological or economic significance. Uses of the marine environment shall be carried out in a manner that will sustain the biological productivity of coastal waters and that will maintain healthy populations of all species of marine organisms adequate for long-term commercial, recreational, scientific, and educational purposes.*

The City's LCP includes, by reference, both of the above Coastal Act policies. Additionally, Section 3.4(20) of the Augmenting Implementations of the City's Resource Management Plan, which is a part of its LCP, at Section 3.4(20), state:

> *No construction in the vicinity of Alamitos Bay and its associated waters, where the downhill gradient leads directly or indirectly to channels emptying into these waters, will be allowed where adequate provision has not been made to prevent the runoff of construction debris into these waters.*

The project has the potential to cause adverse effects to water quality and marine biology in several ways – through discharges or releases of various chemicals during the desalination process, through contaminated runoff, and due to entrainment[1] of marine organisms.

[1] Entrainment occurs when small organisms, such as larvae, plankton, and fish eggs, are drawn into a cooling or processing system, passed through pipes, pumps, and other equipment and subjected to heat or pressure, and then discharged. Entrainment associated with power plant cooling systems is assumed to cause 100% mortality of the entrained organisms.

Water Quality – Discharge of Chemicals

The project would require the use of various chemicals during the water treatment process and water testing. Chemicals that would be used and then discharged to the power plant cooling water system include sodium hypochlorite (chlorine), sodium bisulfite, sodium hydroxide, sulfuric acid, citric acid, and sodium tripolyphosphate. Water containing other chemicals used during the desalination process and testing will be sent to the municipal sewer system.

The chemicals listed above are generally considered safe in treating drinking water and are to be discharged at concentrations to meet water quality standards as determined by the Regional Board, and are therefore not likely to be harmful to marine biota. The discharge will be subject to the limitations of the applicable NPDES permit and would be diluted in the cooling water discharge from Haynes Generating Units 1 and 2 of approximately 138 million gallons per day.

The applicant has modified the project as approved by the City to eliminate some of the corrosion research that would have resulted in much of the chemical use. This change to the project would further reduce the amount of chemicals to be discharged and further reduce potential impacts to water quality.

Water Quality – Contaminated Runoff

The project, as originally approved by the City, included excavation and trenching in an area within the Haynes Generating Station site near several large fuel oil tanks. This excavation was needed to install a pipeline and pump station to allow discharges of about 100,000 gallons of treated water per day containing higher levels of various chemicals to the municipal sewer system. The excavation could have also potentially resulted in contaminated runoff entering the coastal waters within the intake channel. Previous soil and groundwater sampling at the facility (by TetraTech, 2002) showed levels of four metals (cadmium, chromium, lead, and nickel) and sulfate exceeding applicable standards, and several locations required remediation due to PCB concentrations. However, a change in the project described above – eliminating part of the corrosion research – will also reduce the amount of water needed to be discharged to the sewer system from 100,000 gallons per day to about 3,000 gallons per day. This change will allow this water to be stored in tanks at the project site that will then be trucked to the sewer system. The project no longer includes installation of the pipeline and pump station and thus does not entail excavation in potentially contaminated soils. Therefore, the potential for contaminated runoff to enter the coastal waters of the intake channel have been significantly reduced.

Marine Biology – Entrainment

The project involves withdrawing up to 850,000 gallons per day of seawater from the intake channel and cooling system at the Haynes Generating Station. This use of seawater for desalination would result in entrainment mortality of the plankton and larvae that live in the water, which is drawn from Alamitos Bay. The project as approved by the City may have resulted in entrainment impacts occurring when the desalination facility operated while the power plant was not operating. Additionally, the only entrainment data available for these

coastal waters are over twenty years old, and there are no recent or local data upon which to determine the entrainment impacts of either facility.

However, several recent changes to the project are likely to avoid or reduce the facility's entrainment impacts. These include:

- Operating only in conjunction with the power plant: In a June 26, 2003 letter, the applicant committed to operate the facility only when the cooling system for Haynes Generating Units 1 & 2 is operating. Thus, most entrainment caused by the desalination facility would also occur due to the simultaneous operation of the cooling system.

- Decrease in overall water use: The project originally proposed to use up to 900,000 gallons per day of seawater; however, by identifying several project changes and efficiencies, the applicant has committed to use no more than 850,000 gallons per day.

- Eliminating part of the corrosion research: By eliminating part of this research, the project will now only need to send about 3,000 gallons per day to the sewage treatment system rather than 100,000 gallons per day. Therefore, the power plant would have to draw in no more than 3,000 gallons per day more than what would be needed if the desalination facility were not operating. This would result in the amount of entrainment caused by both facilities to differ by no more than 3,000 gallons per day, which is relatively small when compared to the overall entrainment caused by the power plant.

While there are still no recent and local applicable entrainment data for either facility, the measures described above will avoid or minimize many of the entrainment impacts. Further, because the desalination facility will operate for only about 18 months within the term of the existing NPDES permit, the entrainment data deemed valid for that permit are not likely to be updated during that time, and power plant operations are not likely to change. Approval of entrainment beyond that time period by either facility is likely to require an updated entrainment study.

To ensure these potential impacts to water quality and marine biology are avoided or minimized, **Special Condition 1** requires the desalination facility to operate only when Units 1 and 2 are using the cooling system. **Special Condition 2** requires the applicant to notify the Executive Director if there is a change in the NPDES permit requirements that would affect construction or operation of the desalination facility. Such a change may result in the need for an amendment to the facility's coastal development permit.

Conclusion

For the reasons stated above, the Commission finds that the project, as conditioned, consistent with Sections 30230 and 30231 of the Coastal Act and applicable policies of the LCP.

6.2 Oil, Fuel, and Hazardous Substance Spills

Coastal Act Section 30232 states:

> *Protection against the spillage of crude oil, gas, petroleum products, or hazardous substances shall be provided in relation to any development or transportation of such materials. Effective containment and cleanup facilities and procedures shall be provided for accidental spills that do occur.*

The proposed facility includes the use of a number of chemicals and substances described above that would be hazardous if they were to enter coastal waters in unsafe concentrations.

Coastal Act Section 30232 requires a two-part test – first, does the development provide protection against project-related spills; and second, does it provide effective containment and cleanup should spills occur?

Protection Against Spills

Because the facility is entirely within the Haynes Generating Station, it will be subject to the power plant's Best Management Practices (BMPs), stormwater pollution prevention plan, and other conditions of the facility's NPDES permit. Additionally, while the desalination facility is sited adjacent to the coastal waters of the intake channel, the area is curbed so that spills and runoff would be directed to the existing stormwater system and subject to associated BMPs.

Spill Containment and Cleanup

The Commission has determined in past decisions that spills cannot be effectively contained or cleaned up when they occur in open waters. However, because accidental spills from this facility would be subject to the spill prevention plan and BMPs cited above, and because they would occur in a curbed area well away from open ocean waters, they can be effectively contained and cleaned up within this area.

Conclusion

The two tests of Section 30232 are first, to ensure protection against spills, and second, to ensure that effective containment and cleanup is provided if spills occur. The Commission finds that the first test is met because the BMPs and spill plan in place provide significant protection against spills. The Commission also finds that the second test is met because the facility could effectively contain and cleanup anticipated spills within confined areas using spill cleanup equipment and personnel available at the facility and power plant facility.

For the reasons described above, the Commission finds the project consistent with Section 30232 of the Coastal Act.

6.3 Public Access and Public Recreation

Coastal Act Section 30211 states:

> *Development shall not interfere with the public's right of access to the sea where acquired through use or legislative authorization, including, but not limited to, the use of dry sand and rocky coastal beaches to the first line of terrestrial vegetation.*

The project will be entirely within the boundaries of the Haynes Generating Station. The power plant is surrounded by fences and other security devices, and is not accessible to the public due to safety and security concerns. The project will involve relatively short-term and minor vehicle traffic due to construction and ongoing operations; however, none of the traffic is expected to change the level of service on nearby roads. Therefore, the project is not likely to affect or interfere with public access to the coast.

Conclusion

For the reasons stated above, the Commission finds the project consistent with Section 30211 of the Coastal Act.

6.4 Visual Resources

Coastal Act Section 30251 states:

> *The scenic and visual qualities of coastal areas shall be considered and protected as a resource of public importance. Permitted development shall be sited and designed to protect views to and along the ocean and scenic coastal areas, to minimize the alteration of natural land forms, to be visually compatible with the character of surrounding areas, and, where feasible, to restore and enhance visual quality in visually degraded areas. New development in highly scenic areas such as those designated in the California Coastline Preservation and Recreation Plan prepared by the Department of Parks and Recreation and by local government shall be subordinate to the character of its setting.*

The project is located within the grounds of the Haynes Generating Station and is screened from nearby public areas and views by fencing and vegetation. The project facilities, including filtration units, tanks, pumps, storage, and office trailers, do not exceed fourteen feet in height, and are much smaller than the nearby structures associated with the power plant. Therefore, the project is not likely to result in more than a de minimus adverse change to the existing visual situation.

Conclusion

For the reasons stated above, the Commission finds the project consistent with Section 30251 of the Coastal Act.

7.0 CALIFORNIA ENVIRONMENTAL QUALITY ACT

Section 13096 of the Commission's administrative regulations requires Commission approval of CDP applications to be supported by a finding showing the application, as modified by any conditions of approval, to be consistent with any applicable requirements of the California Environmental Quality Act (CEQA). Section 21080.5(d)(2)(A) of the CEQA prohibits approval of a proposed development if there are feasible alternatives or feasible mitigation measures available that would substantially lessen any significant impacts that the activity may have on the environment.

The project as conditioned herein incorporates measures necessary to avoid any significant environmental effects under the Coastal Act, and there are no less environmentally damaging feasible alternatives. Therefore, the Commission finds that the proposed project is consistent with the resource protection policies of the Coastal Act and with the CEQA.

APPENDIX A: Substantive File Documents

Local CDP Documents from City of Long Beach

- Record of City's review process, including staff report Conditions of Approved CDP and CUP dated May 1, 2003 (See Attachment 1)

Appeal Documents

- July 11, 2003 Addendum to Appeal, including correspondence on behalf of proposal.
- June 24, 2003 Staff Report on Substantial Issue Hearing.
- June 18, 2003 letter and
- June 3, 2003 Appeals by Commissioners Wan and Iseman.

Commission Review Documents

- July 7, 2003 letter and attachments from applicant's attorney, including analysis of facility's chemical use, information about entrainment impacts, project location maps, and evaluation of City's LCP and CDP findings.
- June 26, 2003 letter from applicant stating the facility would operate only when the Units 1 and 2 cooling system was operating.
- July 20, 2000 NPDES Permit for Haynes Generating Station, issued by Los Angeles Regional Water Quality Control Board.